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Utilization of ICT-Based Learning Media in Islamic Religious Education at SMK Kesehatan Daarul Hidayah Sukoharjo

Sudarto [a.1,*], **Mujiburrohman**[b.2].
[*ab] Institut Islam Mamba'ul Ulum, Surakarta, Indonesia.
[*1] sudarto8146@gmail.com, [2]ajibmujiburrohman@gmail.com
*Correspondent Author; sudarto8146@gmail.com

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ABSTRACT
The integration of information and communication technology (ICT) in education has become indispensable, including in Islamic Religious Education (PAI). This study explores how ICT-based learning media are utilized in PAI at SMK Kesehatan Daarul Hidayah Sukoharjo, a health vocational high school in Indonesia. Adopting a qualitative descriptive approach, data were collected through interviews with the Principal, Islamic Studies teachers, students, and parents, as well as observations of classroom practices and relevant documents. The results indicate that the use of various ICT-based media—such as digital presentations, educational videos, Qur'an and tajwid applications, online learning platforms (e.g. Google Classroom and WhatsApp), interactive quizzes (Kahoot and Quizizz), online Islamic resources, and video recording of religious practices—has made PAI learning more engaging, interactive, and accessible. These tools enhanced students' motivation, participation, and understanding of Islamic concepts. The study also identifies challenges like limited infrastructure and varying digital literacy among teachers and students. Overall, the findings affirm that ICT integration in PAI can modernize teaching methods and contextually instill Islamic values in the digital era. Continuous support in teacher training and facility improvement is recommended to sustain effective technology-enhanced religious learning.

Introduction

The advancement of information and communication technology (ICT) has significantly influenced educational practices. Educators are increasingly expected to incorporate ICT-based learning media to create active, creative, and innovative teaching environments. In the context of Islamic Religious Education (PAI), integrating technology is seen as a strategic move to convey Islamic values in a way that resonates with today's digital generation. The Indonesian government, through the National Education System Act No. 20 of 2003, advocates moving beyond purely conventional approaches by leveraging technological developments in education to enrich learning resources and opportunities. By utilizing ICT, learning becomes more flexible and student-centered, motivating learners to be more engaged and self-directed (Darmawan,

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2012). Indeed, properly chosen digital media can make complex and abstract religious concepts more concrete and comprehensible for students.

Islamic Education aims to develop students who are faithful, pious, and of noble character. However, traditional PAI classes that rely solely on lectures and textbooks often struggle to maintain student interest and participation. Teachers recognize that without supportive media, intricate religious materials can be difficult for students to digest. Conversely, the use of multimedia tools—such as projectors, slides, videos, and internet resources—can transform the learning experience to be more engaging and challenging. Prior studies have shown that ICT integration can enhance learning outcomes; for example, Khairani et al. (2025) found that incorporating technology in PAI increased students' motivation and interest. Satria and Ginting (2025) likewise reported that the use of PowerPoint presentations in PAI classes stimulated greater student participation and attention. Despite these benefits, several issues persist in the implementation of ICT in PAI. Many PAI teachers have not yet optimized ICT use due to limited skills, time, or resources. Teacher competencies in operating ICT tools vary widely: while some are adept with computers, multimedia and the internet, others still rely on conventional methods. Infrastructure disparities are also evident, as not all schools (including some vocational schools) have adequate facilities such as stable internet, projectors, or accessible computer labs. Moreover, students' motivation toward PAI has been low when teaching methods remain monotonous and do not incorporate interactive digital media. In some cases, a lack of innovation in ICT-based learning for PAI has led to teacher-centered approaches that fail to actively engage students through e-learning or other platforms. These challenges indicate a gap between the potential of technology and its actual utilization in religious education.

At SMK Kesehatan Daarul Hidayah Sukoharjo, an initial observation suggested that the school had begun integrating ICT into PAI learning. The school is equipped with internet connectivity and a computer laboratory, and PAI teachers have started to use digital media in their instruction. This situation presents an opportunity to investigate how ICT is being employed in PAI at the school and to what extent it benefits teaching and learning. It also allows exploration of any hurdles faced in the process. Understanding this can provide insights into best practices for technology-enhanced religious instruction and how it contributes to students' spiritual and academic development in a vocational school setting.

Based on the background above, this study focuses on the utilization of ICT-based learning media in PAI at SMK Kesehatan Daarul Hidayah Sukoharjo. The novelty of this research lies in its comprehensive examination of multiple ICT tools in a PAI context, as opposed to prior studies that often concentrate on a single medium or general context. The study is guided by constructivist learning theory, which holds that learners build knowledge actively; thus, integrating technology can provide interactive environments for students to construct understanding of religious concepts. Through this lens, and considering the demands of 21st-century education, ICT becomes a means to not only modernize teaching methods but also to contextualize Islamic teachings for digital-age learners.

Accordingly, the research addresses the following questions: (1) How is ICT utilized in the teaching of Islamic Religious Education at SMK Kesehatan Daarul Hidayah Sukoharjo? (2) What ICT-based learning media are used in PAI lessons at this school? By answering these questions, the study aims to shed light on current practices and their effectiveness, as well as to identify areas

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for improvement in integrating technology into Islamic education. The findings are expected to contribute theoretically by enriching the discourse on ICT use in religious education, and practically by guiding educators and school administrators in enhancing PAI learning through technology.

Method

This research employed a qualitative descriptive approach to deeply explore the use of ICT-based learning media in the PAI curriculum at SMK Kesehatan Daarul Hidayah Sukoharjo. The study site, SMK Kesehatan Daarul Hidayah, is a vocational high school focusing on health sciences located in Sukoharjo, Central Java, Indonesia. The research was conducted over a period of approximately six months, from July 2025 to December 2025.

Participants and Data Collection: Participants were selected through purposive sampling to provide relevant and rich information about the phenomenon. The primary data sources included the Principal of the school, two Islamic Studies teachers (PAI teachers), and two students of SMK Kesehatan Daarul Hidayah along with their parents/guardians. Engaging multiple stakeholders (school leadership, teachers, students, and parents) allowed for triangulation of perspectives. Semi-structured interviews were conducted with each of these groups to gather insights into how ICT is integrated into PAI learning and its perceived impacts. For instance, the Principal and a Vice Principal provided information on school policies and support for technology use, teachers shared their experiences and strategies in using ICT, students described their learning experiences, and parents/guardians offered observations on changes in students' attitudes and practices at home.

In addition to interviews, direct classroom observations were carried out to witness the implementation of ICT-based media in actual PAI teaching sessions. During observations, the researcher noted the types of media used (such as projectors, videos, or apps), teacher-student interactions, and student engagement levels when technology was incorporated. Relevant documents were also collected as secondary data, including lesson plans, school technology facilities records, examples of digital learning materials, and students' work (e.g. video assignments). These documents provided contextual background and evidence of ICT usage in the curriculum.

Data Analysis: The qualitative data were analyzed using an interactive model consisting of data reduction, data display, and conclusion drawing. Interview transcripts and observation notes were first carefully read and coded to identify key themes related to the research questions, such as types of ICT media used, methods of implementation, benefits observed, and challenges faced. Data reduction involved summarizing and selecting relevant information while discarding irrelevant details. The coded data were then organized into thematic categories corresponding to the research focus (for example, "Use of digital presentation media", "Use of video and audiovisual media", "Online platforms for learning", "Interactive evaluation tools", "Digital religious resources", and "Digital documentation of practices"). A narrative data display was constructed to outline how each type of ICT media was utilized and what effects it had on teaching and learning processes.

To enhance the credibility of the findings, triangulation was employed: information gathered from interviews was cross-verified with observation data and documents. For instance, if a teacher claimed to frequently use a certain application, the researcher looked for evidence of that usage in lesson plans or observed sessions. Triangulation of sources (comparing perspectives

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of principal, teachers, students, and parents) and methods (interview and observation) helped ensure that the conclusions drawn were well-supported by consistent evidence. Member checking was also done by summarizing the findings to some participants (such as the teachers and principal) to confirm the accuracy of the interpretations.

Ethical considerations were observed throughout the study. Participation was voluntary, and all interviewees provided informed consent. Identities of individuals have been kept confidential by anonymizing their names and referring to them only by their roles (Principal, Teacher, Parent/Guardian, Student) in the report. This anonymization was important to allow participants to speak freely, especially students and parents, without concern for attribution of potentially sensitive comments.

By using the above methods, the research provides a comprehensive and credible account of how ICT-based media are being used in Islamic Religious Education at the case study school, and it lays the groundwork for discussing the implications of these practices.

Result and Discussion

Overview: The research found that the integration of ICT in PAI at SMK Kesehatan Daarul Hidayah Sukoharjo has been implemented effectively, yielding positive impacts on students' learning enthusiasm and understanding. A variety of ICT-based learning media are utilized in PAI instruction, each serving to enrich the teaching-learning process in different ways. The main types of media identified include: (1) digital presentation tools (e.g. PowerPoint and Google Slides), (2) educational videos and Islamic audiovisual media, (3) online learning platforms (Google Classroom and WhatsApp Group), (4) digital Qur'an and *tajwid* applications, (5) interactive quiz applications (Kahoot and Quizizz), (6) online Islamic learning resources (websites and e-books), and (7) digital video documentation for practical worship tasks. These tools have collectively made PAI lessons more engaging, interactive, and accessible beyond the classroom. As a result, students are more motivated and active in learning, and their comprehension of Islamic materials has improved. The findings align with the broader literature, which indicates that ICT integration can modernize religious education and help contextualize Islamic teachings for students in the digital age. The following is a detailed discussion of each type of ICT-based media used, along with supporting evidence from participant interviews and relevant studies.

1. Digital Presentation Media (PowerPoint and Google Slides):

One prominent ICT tool used by PAI teachers is digital presentation software like Microsoft PowerPoint and Google Slides, projected in the classroom with a laptop and LCD projector. Teachers use these media to present lesson content in a visual and structured format. Key Quranic verses, Hadith, important points, and illustrative images are displayed in slides to complement the teacher's explanation. This approach makes abstract religious concepts more concrete and captures students' attention. According to the Principal, facilitating technology in classroom instruction is now a necessity: *"We continue to encourage the use of LCD projectors and presentation media by teachers because it makes learning more modern and easier for students to understand. This is an important step to ensure religious lessons also keep up with technological developments."* (Principal). The Islamic Studies teacher likewise observed tangible benefits of using presentation slides: *"When I display material through PowerPoint with images and illustrations, students appear more focused and they actively ask questions. Visualizing the material makes it easier for them to understand, compared to only listening to an explanation."*

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(Islamic Studies Teacher). From the students' perspective, learning with digital slides is both clearer and more enjoyable. One student remarked that studying with slide presentations *"is easier to understand. The verses and pictures are shown on the screen, so I can directly see examples and their explanations."* (Student). These testimonies illustrate that digital presentations not only help organize the material systematically but also increase student engagement in class. Consistently, prior research by Satria and Ginting (2025) found that the use of PowerPoint media in PAI improved student participation and interest by making lessons more visual and communicative. Similarly, Fadliansyah (2025) reported that PowerPoint and Google Slides enhanced the effectiveness of PAI instruction by enabling teachers to present Quranic verses and Hadith in a structured and understandable way. In sum, the use of digital presentation media has enriched the PAI teaching methodology at the school, making lessons more dynamic and aiding students' comprehension of complex topics.

2. Educational Videos and Islamic Audiovisual Media:

Another ICT-based medium employed in PAI classes is the use of educational videos and Islamic audiovisual content. Teachers incorporate videos such as stories of the Prophets, Islamic history films, animations demonstrating religious practices (like prayer or ablution), and other Islamic educational clips. These audiovisual resources help students contextualize and internalize Islamic values beyond textual theory. Observations revealed that the PAI teacher often plays short films or animations during lessons to provide concrete examples of moral lessons or worship practices. This strategy aligns with the idea that seeing real or dramatized examples can make learning more impactful. The Principal strongly supports the use of such media, noting that it increases the appeal of PAI lessons and deepens students' understanding of Islamic values: *"Video media are very effective in teaching PAI. When students watch stories of the prophets or Islamic films, they are not only learning theory but also understanding the values and examples that they can apply in their lives."* (Principal). From the teacher's viewpoint, videos make the delivery of material more communicative, as concepts become clearer through real examples. One Islamic Studies teacher explained: *"By showing videos about worship practices or exemplary stories, it's easier to move students and help them understand the meaning of the lesson. They become active in asking questions and can directly visualize what they have watched."* (Islamic Studies Teacher). Students reported that these Islamic videos make the class more interesting and help them focus on the lesson. As one student shared, *"If I watch a video of a prophet's story or how to perform a prayer, I understand it better and I often remember the story. Studying becomes not boring."* (Student). This sentiment indicates that videos can enhance recall and sustain attention. The effectiveness of using audiovisual media in PAI is supported by Zahroh et al. (2025), who found that animated Islamic content is highly effective for improving elementary students' understanding of Islamic concepts because it provides tangible and relatable representations. In addition, Bahous (2011) noted that engaging multimedia can motivate students by catering to their audio-visual learning preferences. Thus, incorporating educational videos and Islamic multimedia content has proven to be a powerful approach to increase student interest, facilitate deeper comprehension, and bring religious teachings to life in the classroom.

3. Online Learning Platforms (Google Classroom and WhatsApp Group):

The advent of online learning platforms has also been leveraged in PAI instruction to extend learning beyond the physical classroom. At SMK Kesehatan Daarul Hidayah, teachers utilize

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Google Classroom as a learning management system and WhatsApp Group as a communication tool for PAI classes. Through Google Classroom, teachers post assignments, distribute materials (such as PDF readings, video links, and digital modules), and conduct quizzes, while students submit their work and receive feedback digitally. This platform enables a more organized and accessible workflow; all class materials and assignments are archived online for anytime access. One PAI teacher attested to the benefit of this platform: *"Google Classroom really helps me in giving assignments and archiving students' work. Everything is documented neatly, which makes the grading process easier."* (Islamic Studies Teacher). Students, in turn, appreciate the flexibility offered by Google Classroom. They can review lesson materials that the teacher has uploaded at their own pace and revisit them when studying for assessments. A Grade XI student mentioned, *"If there is material I don't understand, I can open it again in Classroom. If I'm still confused, I can ask through the WhatsApp group, so communication is easier."* (Student). The WhatsApp Group complements this by providing a quick and familiar channel for announcements and discussions. Teachers use the group chat to remind students about tasks or to address questions outside class hours. The Principal noted that using popular messaging apps like WhatsApp helps maintain engagement: *"WhatsApp is already very familiar to students. So when it's used for learning, they can follow along well and feel comfortable."* (Principal). Furthermore, these online platforms proved invaluable when students could not attend school in person (for example, during off-campus health practicums or any disruptions). The PAI teacher recounted instances where students on clinical practice could stay up-to-date with lessons through Google Classroom and WhatsApp, ensuring they did not fall behind: *"Sometimes there are students who have hospital internships and cannot be present. With these platforms they can still follow the material and not be left out."* (Islamic Studies Teacher). This practice highlights the inclusivity and adaptability that online tools bring to PAI learning. The use of Google Classroom and similar platforms in religious education reflects a broader trend in enhancing communication and flexibility in learning, as also reported by Sahputra et al. (2024) who found that Google Classroom expanded learning access and improved teacher-student communication in an Islamic school setting. Likewise, a dialogic learning environment can be fostered through such platforms, encouraging students to discuss religious topics virtually, which reinforces their understanding and critical thinking. The overall impact of utilizing online learning platforms in this PAI class has been a more connected and responsive learning community, where learning can continue beyond the traditional schedule and venue. It also cultivates digital literacy skills among students in an Islamic context, as they learn to use technology responsibly to explore religious knowledge.

4. Digital Qur'an and *Tajwid* Applications:

To strengthen students' ability to read and recite the Qur'an, the teachers have introduced digital Qur'an and tajwīd applications as learning aids. Applications such as "Qur'an Digital" and "An-Nawawi Tajwid" (and similar apps) are used for independent practice in reading Qur'an with proper pronunciation and rules. These apps often come with audio features (e.g., recordings of verses by proficient reciters) and interactive guides to tajwīd (rules of Quranic pronunciation), which provide immediate examples and feedback to learners. The use of these applications allows students to practice Qur'anic recitation anytime and anywhere using their smartphones, which is particularly useful beyond classroom hours. The Principal highlighted that leveraging such apps aligns with modern students' lifestyles and can channel their frequent gadget use towards positive learning activities: *"Children nowadays are very attached to gadgets. It's better that those*

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devices are directed towards positive things like learning the Qur'an independently through trusted applications." (Principal). In practice, a PAI teacher assigns students certain Qur'an verses or short surahs to practice at home using these apps. Students listen to the murottal (Qur'an recitation audio) in the app as a model and then repeat the recitation, using features that show tajwīd rules (colored letters or pop-up tips) to ensure they apply the correct pronunciation. The teacher then may check their progress by listening to their recitation in the next class or having students record their recitation. One teacher explained how this method supplements classroom learning: *"Applications like An-Nawawi Tajwid make it easier for students to understand the signs for the recitation rules. They can immediately hear examples without having to wait for face-to-face lessons."* (Islamic Studies Teacher). This statement suggests that the app helps reinforce tajwīd lessons by providing on-demand guidance. Students have responded with increased enthusiasm and confidence in reading the Qur'an. As noted by one student, learning tajwīd through an app is enjoyable and motivating because it feels interactive and they can track their own improvement (Student feedback, as observed by the teacher). This approach of using digital religious apps is supported by Salsabila et al. (2022), who found that a Qur'an learning application offering audio and rule explanations gave students an interactive learning experience and improved their tajwīd proficiency. By incorporating digital Qur'an and tajwīd apps, the PAI program at SMK Daarul Hidayah not only modernizes the way Qur'anic literacy is taught but also encourages students to independently engage with the Qur'an outside school. It demonstrates how technology can be harnessed to strengthen religious skills in a manner that appeals to young, tech-savvy learners.

5. Interactive Evaluation Tools (Kahoot and Quizizz):

Assessment in PAI classes has been enhanced through the use of interactive quiz applications like Kahoot and Quizizz. These game-based learning platforms transform traditional quizzes into fun, competitive activities. The teacher uses Quizizz or Kahoot to create quizzes on Islamic studies material (such as factual knowledge of Islamic history, understanding of concepts in *fiqh*, or vocabulary from Qur'anic verses). Students participate using their smartphones, answering multiple-choice or true/false questions that appear on their screens with time limits. The apps provide instant feedback and show a leaderboard, which adds a gamified element to the evaluation. The use of these tools has made assessment more engaging and has reduced test anxiety among students. One PAI teacher shared her experience: *"Using interactive quiz media for PAI evaluations, like quizzes and video-based assignments, has proven to increase students' motivation to learn. They become more enthusiastic and are able to demonstrate religious attitudes more tangibly in daily life."* (Islamic Studies Teacher). This comment refers to two aspects: the quiz games make students excited to participate during the evaluation itself, and follow-up assignments (like the video tasks discussed later) encourage them to practice religious behaviors. A student confirmed the excitement of these quizzes by saying, *"When exams use Quizizz or Kahoot, it feels fun and challenging."* (Student). The competitive yet playful nature of quiz apps stimulates students to do their best, and as the student added, it motivates them to study and practice more (in the case of practical tasks) to score well in class. The immediate results from these apps also allow the teacher to quickly identify which questions were commonly missed and clarify those points, thereby making the evaluation formative. *"The results appear immediately, so I can quickly see which questions many got wrong and need to be reviewed,"* noted the teacher (Islamic Studies Teacher). This real-time feedback loop is a clear advantage over

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traditional tests. Research supports the positive impact of such tools: Citrayanti and Pradnyana (2025) found that using Kahoot in elementary classes increased student readiness and engagement in evaluation, and Handina et al. (2025) observed that Quizizz boosted student involvement and lowered stress during tests because the evaluation felt like a game. By implementing Kahoot and Quizizz in PAI, the teacher at SMK Daarul Hidayah has made learning assessment more interactive and enjoyable without compromising the rigor of the content. In fact, this strategy likely improves retention of knowledge and fosters a positive attitude toward learning religious subjects, as students perceive assessments as an integral and fun part of learning rather than a punitive measure.

6. Online Islamic Learning Resources (Websites and E-books):

Beyond classroom-specific tools, teachers have also guided students to utilize broader online Islamic learning resources. These include credible Islamic websites, digital articles, e-books, and online fatwa or tafsir repositories provided by reputable organizations (such as the Ministry of Religious Affairs' site, Nahdlatul Ulama Online, Muhammadiyah's site, and other scholarly Islamic platforms). Instead of relying solely on the printed textbook, the teacher often supplements lessons with up-to-date articles or multimedia content on current Islamic issues, thereby broadening the students' horizons. For example, during lessons on contemporary moral issues or Islamic perspectives on health (relevant to a health vocational school), the teacher might assign students to read an article from a trusted Islamic site or watch a short online sermon (*kajian*) by a well-known scholar. Students are taught how to evaluate the credibility of online content and are given a curated list of acceptable websites. One teacher explained how this practice enriches the learning experience: *"I often provide links to the latest Islamic articles related to current issues, so students can learn religion in a contextual way that fits the times."* (Islamic Studies Teacher). By engaging with recent discussions (for instance, an article on Islam and digital ethics, or an Islamic viewpoint on a health practice), students see the relevance of PAI to real-world situations. This approach not only makes learning more interesting for them, but it also trains them in independent study and critical thinking. Students reported that having many sources to choose from online makes completing assignments more convenient and informative. *"If there's an assignment, I can search for an Islamic article on the website the teacher gave. I understand it faster because the language is easy to grasp,"* said one student (Student). Another student noted that watching short Islamic sermons or infographic videos recommended by the school has motivated them to improve their daily religious practices: *"I often watch short da'wah videos by an Islamic teacher recommended by the school. It adds motivation for me to improve my daily worship."* (Student). These comments illustrate that online resources, when properly guided, can have a meaningful impact on students' learning and personal development. The use of online Islamic resources also necessitates developing students' digital religious literacy—the ability to find, evaluate, and use online information in line with Islamic guidance. The Principal stressed the importance of mentoring students in this area: *"The internet is so vast, so it needs to be guided. We emphasize that students should only open safe and credible sources for learning about religion."* (Principal). This guidance is crucial to protect students from misinformation or extremist content, and is part of character education in the digital era. Consistent with this, Rohman et al. (2024) argue that fostering Islamic digital literacy is essential so that students are not easily exposed to incorrect or radical religious interpretations online. At SMK Daarul Hidayah, the teacher's strategy of directing students to authoritative online materials, coupled with tasks like

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summarizing articles (to ensure they truly read and understand the content), has been effective. *"I not only give them reading material, but also ask students to write a summary of the link I share so that they really read and comprehend it,"* explained the teacher (Islamic Studies Teacher). Through this approach, students become active learners who can navigate the wealth of information available and extract knowledge that is both authentic and relevant. This practice supports the development of critical thinking and discernment—students learn to recognize moderate, well-founded Islamic content versus dubious sources—thereby aligning with the school's vision of producing graduates who are religiously observant and technologically adept. Overall, incorporating online Islamic learning resources has extended the classroom to a global library of knowledge and has cultivated a habit of lifelong learning and inquiry among students.

7. Digital Video Documentation of Worship Practices:

A particularly innovative use of ICT in this PAI program is assigning students to create digital video documentation of their Islamic worship practices as part of practical assessments. Instead of solely testing students through oral or written exams on topics like ritual purity, prayer (*salat*), or other acts of worship, the teacher requires students to perform these practices and record them on video. For instance, students might be asked to demonstrate the ablution (*wudu*) correctly, perform the steps of prayer, or practice reciting daily duas, and submit a video of the activity. This approach serves multiple purposes: it evaluates students' psychomotor skills in performing religious acts, instills a sense of responsibility and sincerity in worship, and involves their families in the learning process. Students often take these assignments seriously because they know their technique and correctness will be observed in detail. One homeroom teacher (class supervisor) noted, *"When students are asked to create a video of a worship practice like wudu or salat, they appear more serious and responsible. The assessment no longer only measures memorization or theory, but also how far students can practice Islamic teachings in their daily life."* (Teacher). This is echoed by a parent's perspective. The mother of a student (Parent/Guardian) observed, *"Assignments like making prayer videos have made my child more diligent in praying at home. They feel proud when their work is presented in class. As a parent, I become involved and supervise my child's worship."* (Parent/Guardian). This quote highlights how the video task has a spillover effect into the home: students practice repeatedly at home (often with parents guiding or at least encouraging them) to ensure their recorded performance is good, which effectively means they are reinforcing good habits in a real setting. One student reflected on this, saying *"If I record a video when practicing wudu or salat, I take it more seriously. Because the video will be watched by Ustaz (teacher),"* and noted that through this process they became more mindful of doing it correctly (Student). When these videos are later reviewed by the teacher (sometimes even shown in class for group feedback or discussion), students receive constructive input. *"After grading, the teacher shows which parts were wrong. So we can correct our worship,"* said another student (Student), indicating that this process becomes a learning opportunity to improve their actual practice of religion, not just a graded task. The Principal praised this innovation, stating that such digital documentation tasks strengthen the habituation of worship in students' daily lives: *"Video documentation makes students really carry out the worship practices, not just understand them in a book. This is important for building Islamic character,"* (Principal). Teachers also found that evaluating these videos allows for more objective and thorough assessment of each student's abilities, as videos can be replayed to check details of movements and recitations. One teacher mentioned, *"I can check each one more carefully through the video,*

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especially parts that need improvement. Students also become more aware and responsible in presenting the correct practice," (Islamic Studies Teacher). Indeed, reviewing a student's recorded prayer enables the teacher to identify if, for example, a recitation was missed or a movement was not as prescribed, and then advise the student accordingly. This method of assessment is in line with Maghfiroh's (2024) findings that video-based assignments in PAI increase students' reflective abilities and religious awareness, as students actively engage in performing Islamic teachings. It shifts the learning from cognitive knowledge to practical application, reinforcing the *affective* and *psychomotor* domains of learning. Moreover, by involving technology, students find the assignment more stimulating and modern, rather than a routine chore. Parents getting involved is an added benefit; as reported by the teacher, some parents supervise or assist in filming, thus being indirectly drawn into the child's religious learning process: *"There are parents who help monitor or assist, which is good because religious learning becomes more touching to the home environment,"* (Islamic Studies Teacher). This collaboration enhances the support system for students' religious education. Overall, the digital documentation of worship practices has proven to be a highly effective innovation. It not only provides a means of assessment but also functions as a tool for character-building and for bridging school learning with real-life practice. By using technology in this manner, PAI teaching at SMK Daarul Hidayah becomes more applicative (applying theory to action), instills accountability in students, and has a tangible impact on their daily religious behavior. In a broader sense, it exemplifies how ICT can contribute to spiritual and social development, not just cognitive learning.

In summary, the results demonstrate that the utilization of various ICT-based learning media in PAI at SMK Kesehatan Daarul Hidayah Sukoharjo has transformed the learning experience into one that is modern, engaging, and contextually rich. Students are more enthusiastic in participating, whether it is through asking questions sparked by a PowerPoint slide, enjoying a quiz game, or diligently practicing a prayer for a video assignment. These practices have made learning student-centered and interactive, which is a significant shift from the one-way conventional teaching of religious subjects. Additionally, these technologies have extended learning beyond the classroom—students continue learning via apps and online platforms at home—which reinforces the material and connects it with their daily lives. This integration of technology in religious education also fosters important 21st-century skills in students, such as digital literacy, critical thinking (when evaluating information online), creativity (when producing digital content), and collaboration (through online discussions and involving family in tasks).

At the same time, some challenges were identified. Consistent with the observations of Ibnu and Efendi (2023), the study found hurdles such as limitations in devices and infrastructure (for instance, a few students had difficulty accessing the internet at home, and occasionally the school's network was unstable), and the need for ongoing improvement of teachers' digital competencies. Not all teachers are equally comfortable with every new tool, and some required guidance or training to effectively design digital materials or troubleshoot technical issues. These obstacles highlight the necessity for continuous support: the school management may need to invest further in infrastructure and organize professional development for teachers on integrating technology into teaching. Despite these challenges, the overall trend is positive and points to the value of continuing and expanding ICT utilization. As Metasari and Amalia (2024) conclude, the use of digital technology-based media in education plays a crucial role in shaping a generation that is not only knowledgeable and skilled but also digitally literate and of strong faith. The

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experience at SMK Kesehatan Daarul Hidayah Sukoharjo confirms that integrating ICT in PAI is more than just modernizing teaching methods—it is a strategic approach to inculcate Islamic values in a contextual and engaging manner, preparing students to uphold their faith in an increasingly digital world.

Conclusion

This study found that the utilization of information and communication technology in Islamic Religious Education (PAI) at SMK Kesehatan Daarul Hidayah Sukoharjo has been implemented effectively and contributes significantly to improving the quality of learning. *Firstly*, the integration of various digital media—such as visual presentations, educational videos, digital Qur'an applications, online learning platforms, and interactive evaluation tools—has made PAI lessons more interesting, interactive, and easily accessible. Teachers successfully developed learning activities that increased students' motivation, participation, and understanding of Islamic values, while also supporting a flexible learning process that extends beyond the classroom and keeps pace with contemporary developments. *Secondly*, the ICT-based learning media used (including PowerPoint/Google Slides, video content, Qur'an and tajwīd apps, Google Classroom, WhatsApp, Quizizz/Kahoot, credible Islamic websites, and video-recorded practice assignments) provided positive contributions to students' cognitive, affective, and psychomotor competencies. The use of technology was not only focused on delivering material in engaging ways, but also emphasized strengthening religious practice and responsibility. For example, video documentation tasks encouraged actual implementation of worship rituals and nurtured a sense of accountability, while the incorporation of online resources and discussions cultivated digital religious literacy, helping students critically sift information. In essence, the application of ICT in PAI at this school proved capable of creating a modern learning process that simultaneously reinforces the formation of students' Islamic character in the digital era.

Although the outcomes are largely positive, the findings also imply a need for continuous improvements to sustain and enhance these practices. Schools should provide ongoing support in terms of infrastructure and teacher training to address any remaining barriers. Ensuring adequate devices, stable internet connectivity, and developing teachers' skills in managing digital media will help optimize the innovation in learning. It is also beneficial to strengthen coordination among teachers, students, and parents, as the involvement of all stakeholders was shown to enrich the learning experience (for instance, parents supervising and engaging with students' at-home religious practice assignments).

Future research could expand on this study by examining additional aspects such as students' long-term retention of religious knowledge and values when taught with technology, the development of students' digital ethics and safety in consuming religious content online, or a comparative analysis of ICT integration in PAI across different school contexts. Furthermore, exploring the role of student's technological skills and parents' involvement in greater depth could provide insight into how to further integrate ICT in a way that holistically benefits religious education.

In conclusion, the integration of ICT-based learning media in Islamic Religious Education at SMK Kesehatan Daarul Hidayah Sukoharjo has successfully modernized teaching methods and enriched the learning experience. It fosters a learning environment that is both technologically adaptive and value-oriented, allowing students to engage with Islamic teachings in a way that is

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relevant to their lives. This not only enhances academic outcomes in the subject but also contributes to shaping digitally literate, religiously observant young individuals who are prepared to navigate and uphold their values in the evolving digital landscape.

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